

Application Note

The EM 2040 COMPACT, trusted acoustics



KONGSBERG

Redefining high resolution shallow water surveys

EM 2040C

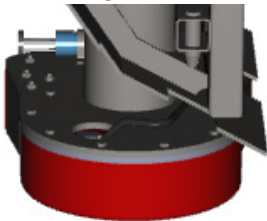
The EM2040C sets the new standard in the hydrographic industry by which all multibeam systems should be measured.

The “C” stands for Compact. Like its big brother, the EM 2040, the EM 2040 Compact represents a huge leap in acoustic technology. The extremely clean, accurate data the system produces saves you time and money.

Design

The EM 2040C is built to last. Designed with the same dimensions as Kongsberg’s industry leading EM 3002, where the receiver and transmitter are integrated in a common sonar head, the EM 2040C is rugged and dependable and is built to exceed IHO S44 and LINZ performance requirements.

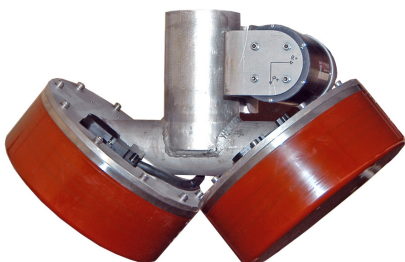
Single Head



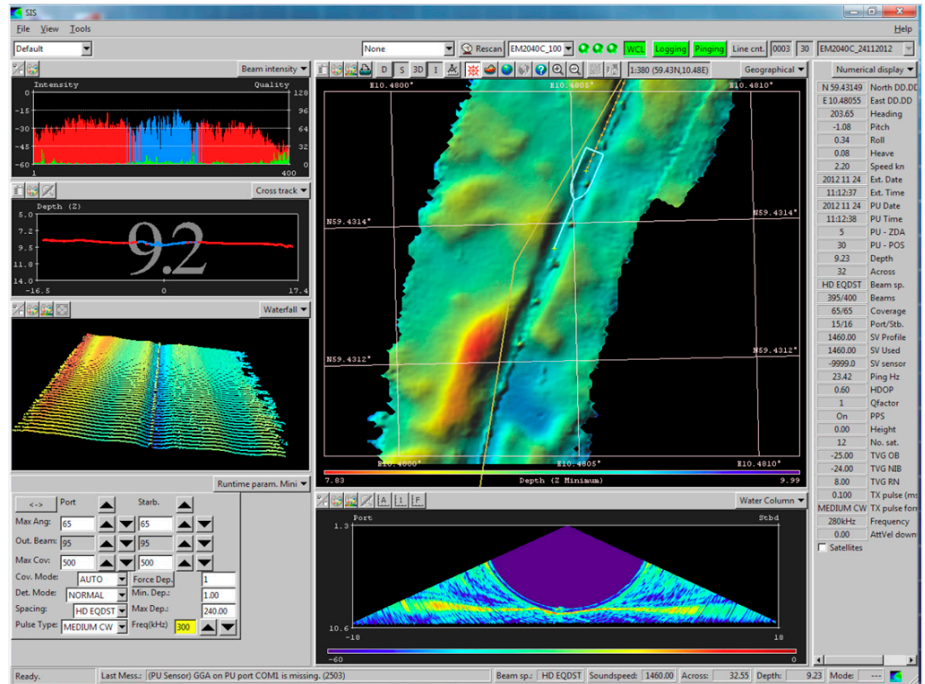
Full roll and pitch stabilization techniques in real time as well as nearfield focusing both on transmit and receive are key features that set the EM 2040C system (and its big brother the EM2040) as a benchmark in the market.

Also available as a Dual Sonar Head setup, the EM2040C system can provide full yaw stabilization.

Dual Head



Easy retrofit from EM 3002



EM 2040C raw datasets in real time showing details of a pipeline on the seafloor

Other interesting EM 2040C multibeam system features are:

- High resolution and wide frequency range
- Maximum depth of 490m
- Extended range due to Frequency Modulated (FM) chirp
- Water column data and seabed image (standard)
- Dual Swath option available (2 swaths per ping)
- Sonar head is pressure rated to 50m depth

Applications

Perfectly designed for easy installations on small survey launches and boats, the EM 2040C is the ideal tool for high resolution mapping and inspection applications.

If your survey work requires surveying after dredging a harbour, searching for shipwrecks, habitat mapping, conducting hydrographic surveys to comply with IHO S-44 Special Order, pipeline inspection, continental shelf mapping and more; then this is the right tool backed by the best software products as well.

Our acoustic instruments are all characterized by high mapping productivity in combination with exceptionally high sounding accuracy, and a dense pattern of soundings to cover the seafloor in order to reveal all details on the bottom. In addition to the soundings, the multibeam echo sounders produce seabed image data similar to a side scan sonar image. This dataset is useful for characterizing the seabed material properties and sometimes for detecting small features not visible in the sounding data.

Our realtime software includes extensive tools for visualizing the sounding data as well as the seabed image data, and to check the system calibration and the data quality. Preliminary maps can be produced and plotted almost immediately after a survey is finished.

Installations

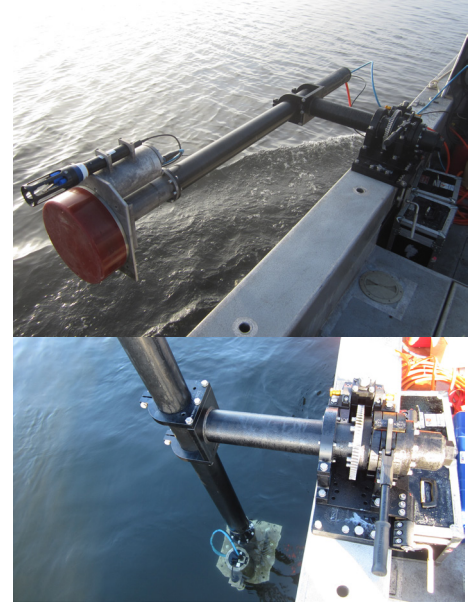
Portable solutions are very practical for inshore surveying. Permanent or semi-permanent mounting of the acoustic transducers is recommended for offshore work with surface vessels. Solutions for ROV and AUV based multibeam surveying are available.



Retractable hull unit



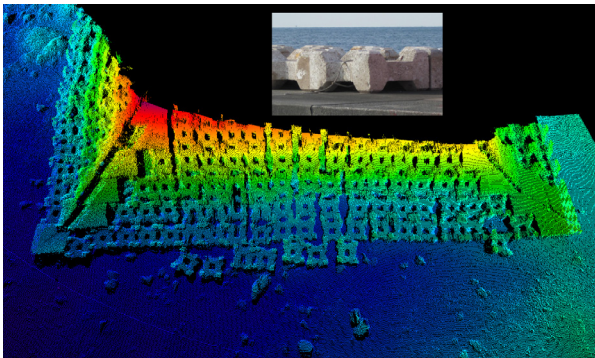
Bow mounting



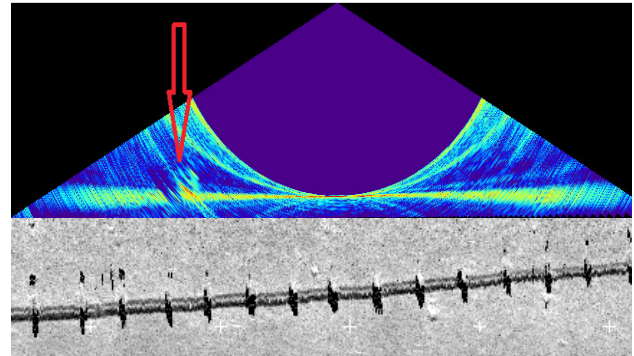
Over the side mounting

The End of Data Cleaning

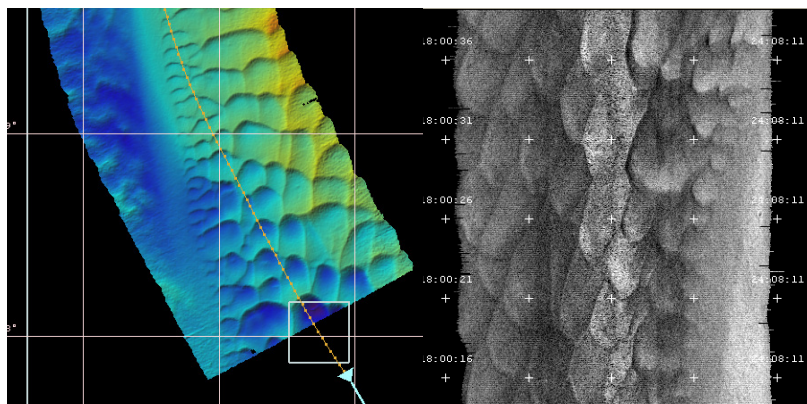
The EM 2040C is a professional tool for precision mapping of the seabed supported by robust bottom detection algorithms developed over the years that have no match in our business area. We are proud that our systems are recognized by many customers to collect the cleanest multibeam datasets on the globe. Surveying to charting made easy!



Breakwater survey at a port area



Pipeline on water column and backscatter displays



Sandwaves - Bathymetry and backscatter

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